substituted for the drawings that were previously filed for this patent application. These new formal drawings have been thoroughly checked by a patent draftsman who has more than forty (40) years of patent drafting experience to insure that they comply with Patent and Trademark Office requirements and standards. Thus, the undersigned is confident that the attached drawings meet the requirements and standards of the Patent and Trademark Office.

The Examiner has rejected claims 1-9 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such as way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, the Examiner states that claim 1 recites "when said means for directing gas from the fuel tank to the atmosphere is actuated" in two instances, and has stated that the aforementioned rejection could be overcome by removal of both instances of the aforementioned phrase. By this Amendment, the two recitations of the aforementioned phrase have been deleted from amended claim 1, and thus, the Examiner's rejection of same has been overcome. In addition, claim 2 has been canceled since it contained the aforementioned phrase. Also, claim 5 has been amended so as to delete the aforementioned phrase.

Claims 1-6 and 9 have been rejected by the Examiner under 35 U.S.C. 102(b) as being anticipated by the Williams reference (U.S. Patent No. 5,467,641). It is respectfully submitted that a review of this reference reveals it does not anticipate, disclose, suggest or make obvious the Applicants' invention. The Applicants' invention is directed to an apparatus and method for testing the integrity of fuel tanks. As such,

the Applicants' invention includes a microprocessor that allows an external pressure source, such as a compressed nitrogen supply, to pressurize the fuel tank to a first pressure level. Once pressure stabilization has been achieved within the fuel tank, the external pressure source and a reference orifice are closed allowing the pressure within the tank to decay, if a leak is present. If no leaks are present, the fuel tank passes the test. If a large leak is present in the fuel tank, the pressure within the tank decays rapidly and the fuel tank fails the test. If, however, a relatively small leak exists, the fuel tank is repressurized by the external pressure source and a test is performed comparing the time required for the pressure within the tank to decay from a first pressure level to a second pressure level through both the leak and the reference orifice to the time required for such a pressure decay to occur through only the leak. By utilizing the ratio of the time required for the pressure within the tank to decay from a first pressure level to a second pressure level when only the leak is present within the tank and the time required for same to occur when both the leak and reference orifice are present within the system, a determination can be made whether the leak is of such a size that it is acceptable.

The Williams reference (U.S. Patent No. 5,467,641) discloses a method and apparatus for detecting fuel system leaks. As such, the apparatus disclosed in this reference does not include an external source of pressure, as in the Applicants' invention. The apparatus and method disclosed in this reference depends upon measuring rates of pressure rise due to evaporation of fuel within the fuel tank being tested, rather than pressure decay due to tank leaks and/or leaks through a reference

orifice by utilizing an external source of gas pressure, as in the Applicants' invention. Thus, the apparatus disclosed in this reference differs from the apparatus utilized in the Applicants' invention since an external source of gas pressure is not utilized for testing purposes in this reference. In addition, the method of testing disclosed in this reference is totally different from that utilized in the Applicant's invention in that the method is dependent upon the rate of pressure rise due to evaporation of the fuel within the fuel tank, rather than the rate of pressure decay, as in the Applicants' invention. Since the apparatus and method disclosed in this reference depends upon measuring rates of pressure rise due to evaporation of fuel within the fuel tank being tested, fuel must be present in the fuel tank in order to utilize the invention disclosed in this reference. In contrast, in the Applicants' invention, fuel is not required in the fuel tank so that the leakage test can be performed. In view of the foregoing differences in apparatus and method, it is respectfully submitted that the Applicants' invention is not anticipated, disclosed, suggested or obvious in view of this reference and that the Applicants' invention is patentable thereover. However, in order to more specifically define the Applicants' invention over this reference, independent claim 1 has been also amended to include the limitation that the fuel tank tester utilizes an external source of pressure for tank testing purposes and includes means for connecting the external source of pressure to the fuel tank tester. In view of this amendment of independent claim 1, it is respectfully submitted that this claim, and all claims dependent thereon, are now in condition for allowance. Similarly, independent claim 9 has been amended to include the limitation that the fuel tank is pressurized by utilizing an external source of

pressure. In view of this amendment of independent claim 9, it is respectfully submitted that this claim, and claim 10 which is dependent thereon, are similarly in condition for allowance.

The Examiner has also rejected claim 7, 8 and 10 under 35 U.S.C. 103(a) as being unpatentable over the aforementioned Williams reference. By this Amendment, claim 7 and 8 have been canceled, and thus, the Examiner's rejection of same is now moot. As for claim 10, this claim has been amended to include the limitation under steps g) and l) therein that the fuel tank is repressurized by utilizing an external source of pressure. In view of the fact that the Williams reference does not utilize an external source of pressure but relies on a pressure rise due to the evaporation of fuel within the fuel tank, as previously discussed, it is respectfully submitted that claim 10, as amended, is now in condition for allowance.

Attached hereto is a "marked-up" version of the revised claims. The revised claims are shown as they were originally submitted in the above application with the revisions made by the present Amendment shown hand printed.

In view of this Amendment, it is respectfully submitted that the above application is in condition for allowance, and such action is requested.

Respectfully submitted,

JAMES A. HUDAK, Reg. No. 27,340
Attorney for Applicants
29425 Chagrin Blvd., Suite #304
Cleveland, Ohio 44122-4602
(216) 292-3900

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1) A fuel tank tester ~~comprising a~~ UTILIZING AN EXTERNAL source of ~~gas~~ pressure, means for determining the pressure within the fuel tank BEING TESTED, a reference orifice, ~~means for directing gas from the fuel tank to the atmosphere, and~~ means for directing gas from the fuel tank to said reference orifice, means for determining the time required for the pressure within the fuel tank to decay between predetermined pressure LEVELS ~~values when said means for directing gas from the fuel tank to the atmosphere is actuated~~ and the time required for the pressure within the fuel tank to decay between predetermined pressure LEVELS ~~values~~ when ~~said means for directing gas from the fuel tank to the atmosphere and~~ said means for directing gas from the fuel tank to said reference orifice IS ~~are~~ actuated, and means for comparing said times determined by said time determining means with predetermined time values.

FOR TESTING PURPOSES COMPRISING MEANS FOR CONNECTING THE EXTERNAL SOURCE OF PRESSURE TO SAID FUEL TANKER TESTER, MEANS FOR CONNECTING SAID FUEL TANK TESTER TO THE FUEL TANK BEING TESTED;

5) The tester as defined in claim 1 further including a microprocessor to control ~~said means for directing gas from the fuel tank to the atmosphere and to control~~ said means for directing gas from the fuel tank to said reference orifice.

9) A method for testing a fuel tank comprising the steps of:

a) Pressurizing the fuel tank BY UTILIZING AN EXTERNAL SOURCE ~~to a predetermined first pressure:~~ OF PRESSURE;

b) ~~Permitting~~ ALLOWING gas within the fuel tank to ~~decay until~~ STABILIZE AT a predetermined ~~second~~ FIRST pressure ~~has been reached~~;

c) Actuating a timer when said predetermined ~~second~~ PRESSURE WITHIN THE FUEL TANK HAS STABILIZED AT SAID FIRST pressure ~~has been reached;~~

d) Allowing gas from the fuel tank ~~to continue~~ to decay until a predetermined ~~third~~ SECOND pressure has been reached;

e) Storing the elapsed time on the timer ~~and stopping gas flow from the fuel tank~~; and

f) Comparing said elapsed time on the timer with a predetermined time for said pressure decay to determine whether the fuel tank has an acceptable leakage rate.

10) The method as defined in claim 9 further including, after step f, the following steps:

g) Repressurizing the fuel tank ~~to said predetermined first pressure;~~ BY UTILIZING AN EXTERNAL SOURCE OF PRESSURE;

h) ~~Permitting~~ ALLOWING gas within the fuel tank to ~~pass through a reference orifice until~~ STABILIZE AT said ~~second~~ FIRST predetermined pressure ~~has been reached~~;

i) Actuating said timer when said ~~second~~ PRESSURE WITHIN THE FUEL TANK HAS STABILIZED AT SAID FIRST predetermined pressure; ~~has been reached~~;

j) Allowing gas from the fuel tank ~~to continue~~ to pass through said reference orifice until a predetermined ~~fourth~~ THIRD pressure has been reached;

k) Storing the elapsed time on the timer and stopping gas flow through said reference orifice;

l) Repressurizing the fuel tank ~~to said predetermined first pressure~~; BY UTILIZING AN EXTERNAL SOURCE OF PRESSURE;

m) ~~Permitting~~ ALLOWING gas within the fuel tank to ~~decay until said second~~ STABILIZE AT SAID FIRST predetermined pressure ~~has been reached~~;

n) Actuating said timer when said ~~second~~ PRESSURE WITHIN THE FUEL TANK HAS STABILIZED AT SAID FIRST predetermined pressure ~~has been reached~~;

o) Allowing gas from the fuel tank ~~to continue~~ to decay until said predetermined ~~fourth~~ THIRD pressure has been reached;

p) Storing the elapsed time on the timer ~~and stopping gas flow from the fuel tank~~; and

q) Comparing the ratio of the stored time in step ~~k)~~ P with the stored time in step ~~p)~~ K against a predetermined standard ratio to determine whether the fuel tank under test has an acceptable leakage rate.